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**Via ECF Filing**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Office of the Secretary  
445 12th Street, SW  
Washington, DC 20554

**Re: Petition for Emergency Declaratory Ruling by Polaris Wireless, Inc., *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, PS Docket No. 07-114**

Dear Secretary Dortch:

Polaris Wireless, Inc. (“Polaris Wireless”) submits this Petition to request an Emergency Declaratory Ruling from the Commission: (i) reaffirming the deadlines established in the Fifth Report & Order (“Order”)<sup>1</sup> as the z-axis proceedings have reached a point—indeed a critical point—that necessitates such clarity if the deadlines set by the Commission are to be met; and (ii) dismissing without prejudice the alternative proposals belatedly and hastily advanced by certain interests. These proposals have been submitted under seal so that they cannot be evaluated and are predicated upon the Commission’s belated and unwarranted acceptance of an accuracy standard which the Public Safety and first responder community has repeatedly stated is not sufficient. As Polaris Wireless has previously stated, meeting the current deadline is still possible as of today, but time is running out for carriers to act as necessary to comply with the mandated deadline.<sup>2</sup> Based on the recent developments in the docket, in order to meet the

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<sup>1</sup> *Wireless E911 Location Accuracy Requirements*, Fifth Report and Order and Fifth Further Notice of Proposed Rulemaking, PS Docket No. 07-114, FCC 19-124 (rel. Nov. 25, 2019) amended by Erratum (rel. Jan. 15, 2020) (*Fifth Report & Order*).

<sup>2</sup> Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114, at 1 (filed April 9, 2020).

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established April 2021 deadline the Commission must reconfirm that the Order stands as written and that alternative proposals will not be considered in this docket.

The need for an Emergency Declaratory Ruling is imperative because the alternative proposal is not a logical outgrowth of the Fifth Report and Order's Notice of Proposed Rulemaking (NPRM); it is designed primarily to discourage stakeholder participation in meeting the upcoming deadline. Further, the limited information provided makes it impossible for interested parties to comment, eschewing the transparency of testing results that has been paramount to previous refinement of the accuracy metric and are consistently recognized by courts as a requirement of the Administrative Procedure Act's ("APA") notice and comment rulemaking. Should the Commission deem it necessary to reevaluate the accuracy metric established in the Order, such an action should be done through a rulemaking evaluating the Stage Za test report and any other relevant studies to allow for meaningful review. But, especially in this time of a pandemic, the Commission cannot allow these belated and incomplete undertakings to delay implementation of the Fifth Report and Order. Accordingly, Polaris Wireless's request for an Emergency Declaratory Ruling should be granted immediately; if the CTIA and the carriers wish to pursue their alternatives, they must follow the appropriate procedural avenues available under the APA and the Commission's rules.

### **The Fifth Report and Order Should Stand as Adopted Without Change**

After years of consideration and industry engagement, the Commission adopted rules that were determined to be both achievable and effective in saving lives. These rules were not hastily conceived nor were they adopted without public debate, including full disclosure of tested vertical technologies and their respective performance.<sup>3</sup> In a similar manner, the Fourth Report & Order adopted rules that defined areas for vertical location compliance to be the Top 50 CMAs.<sup>4</sup> The nationwide wireless carriers filed plans for complying with the Fourth Report & Order that identified use of the National Emergency Address Database (NEAD) and Device-

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<sup>3</sup> *Report on Stage Z*, 911 Location Test Bed, LLC, PS Docket No. 07-114 (Aug. 3, 2018).

<sup>4</sup> *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, Fourth Report and Order, FCC 15-9 (Feb. 3, 2015) (*Fourth Report & Order*).

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based Hybrid technology as their intended approaches for compliance.<sup>5</sup> AT&T and Verizon Wireless also supported testing of NextNav and Polaris Wireless z-axis capabilities.

The carriers, through the CTIA, began developing the NEAD which, after years of development and testing, ultimately failed to deliver necessary performance.<sup>6</sup> The CTIA did not present a plan to make the program work nor did it suggest an alternative solution. As a result, dispatchable location was no longer a viable option for carriers to comply with the vertical location requirements of the Fourth Report & Order which, by default, left z-axis technology as the carrier's path to compliance.

The CTIA's Stage Z testing, conducted in early 2018, included two such technologies, one from Polaris Wireless and one from NextNav. Notably, device-based hybrid solutions identified by the carriers as their selected technology for compliance were absent in this testing. The Stage Z report was publicly released and subjected to industry review, as evident in the numerous subsequent filings in this proceeding, which provided reliable, publicly-scrutinized testing data for the Commission to evaluate and reference in drafting and ultimately adopting the Order.

Only recently has Google, the first of the two OS vendor solutions, been placed under test in the CTIA Test Bed's Stage Za testing.<sup>7</sup> While the Stage Za report was issued in confidence, selected performance results were ultimately released as part of an ex parte filing made collectively by the CTIA, nationwide carriers, and Google.<sup>8</sup> The summary performance statement provided in this filing, " $\pm 3$  meter accuracy for more than half of calls in the test bed, and exceeded the 80th percentile metric in one morphology," is not meaningful for review or consideration in these proceedings except to indicate that the overall solution is not compliant

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<sup>5</sup> It has been generally understood through their initial implementation plans filed in February 2017 and supplemented in August 2018 that the four nationwide carriers were developing the NEAD as their dispatchable location solution while also pursuing device-based hybrid solutions from the OS vendors.

<sup>6</sup> CTIA, Notice of Ex Parte, PS Docket No. 07-114, at 1 (filed Sept. 3, 2019).

<sup>7</sup> CTIA, Stage Za Report Cover Letter, PS Docket No. 07-114 (filed April 29, 2020).

<sup>8</sup> CTIA, Notice of Ex Parte, PS Docket No. 07-114 (filed May 8, 2020); CTIA, Notice of Ex Parte, PS Docket No. 07-114 (filed May 14, 2020).

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with the accuracy requirements of the Order and as demonstrated by both Polaris Wireless and NextNav in Stage Z testing two years ago.

Instead of working on implementation approaches for demonstrated capabilities from Stage Z vendors, the nationwide carriers now offer a revised vertical location framework<sup>9</sup> or alternative path for z-axis compliance.<sup>10</sup> These proposals offer nationwide z-axis coverage (an increase from the Top 25/50 CMAs) but with 3 meter accuracy for 80% of calls not delivered until 2025 (a weakened proposal for the Top 25/50 CMAs). Clearly, these proposals seek to change z-axis compliance in the adopted Order to performance achievable by one technology vendor, Google.<sup>11</sup> Polaris Wireless does not oppose serving consumers nationwide. If the Commission chooses to do so, it can follow the established procedures to consider whether to adopt the newly minted hybrid solution as a supplement to, and not replacement of, the existing standards.

Despite T-Mobile's clearly uninformed point,<sup>12</sup> NextNav and Polaris Wireless can provide service beyond the Top 50 markets.<sup>13</sup> The CTIA and the carriers actions seem to argue that z-axis capabilities offered by Polaris Wireless and NextNav cannot co-exist with device-based solutions and that a trade-off is the only option. In fact, Polaris Wireless has offered to all carriers and many public stakeholders, including other location technology vendors, to collaborate on a combined solution that would serve the most consumers in with the greatest possible geographic coverage area. There is no technical hurdle preventing such a collaboration.

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<sup>9</sup> CTIA Reply Comments to the Fifth Further Notice of Proposed Rulemaking, PS Docket No. 07-114 (filed Mar. 20, 2020).

<sup>10</sup> T-Mobile, Notice of Ex Parte, PS Docket No. 07-114 at 1 (filed April 23, 2020).

<sup>11</sup> The CTIA, all nationwide carriers, and Google have collectively met with the FCC to present this proposal. The CTIA, all nationwide carriers, and Google have collectively met with the FCC to present this proposal. CTIA, Notice of Ex Parte, PS Docket No. 07-114 at 1 (filed May 8, 2020); CTIA, Notice of Ex Parte, PS Docket No. 07-114 at 1 (filed May 14, 2020).

<sup>12</sup> T-Mobile, Notice of Ex Parte, PS Docket No. 07-114 at 4 (filed April 23, 2020).

<sup>13</sup> NextNav, LLC, Notice of Ex Parte, PS Docket No. 07-114 at 1 (filed May 8, 2020). Additionally, Polaris Wireless states that z-axis service is not limited to the Top 50 CMAs.

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The carriers also point to scale as a supposed limitation of the solutions offered by Polaris Wireless and NextNav.<sup>14</sup> One point is that both solutions are barometric-based and therefore limited to devices with barometric sensors. This is true and is why Polaris Wireless asked the Commission to clarify the definition of z-axis capable devices, specifically that only devices with barometric sensors can be considered z-axis capable for barometric-based solutions.<sup>15</sup> It is also important to note that Polaris Wireless proposed to test a non-barometric sensor-based solution in Stage Z and ultimately withdrew that technology from testing after insistence from the carriers.<sup>16</sup> As such, Polaris Wireless highlights that this perceived limitation to barometric-based capabilities was the result of carrier action leading up to Stage Z testing.

The carriers also mistakenly allege that Polaris Wireless and NextNav require third-party app software on devices that consumers will need to download and opt-in. This allegation addresses implementation of a capability to extract from devices barometric pressure readings but mischaracterizes the implementation pathways available. Polaris Wireless commented immediately after the Stage Z test report was issued that implementation its solution requires coordination of effort from various stakeholders.<sup>17</sup> Availability of this information was addressed in 3GPP and OMA standards that were adopted but never implemented. Implementation of these standards is admittedly not straightforward or easy as it involves algorithmic development from multiple stakeholders who each may have different motivations to engage or not engage. Nevertheless, the carriers and other stakeholders have not pursued this approach. As an alternative to the standards-based approach, proprietary software is required on devices to extract the necessary barometric sensor information. This software, however, can be

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<sup>14</sup> T-Mobile, Notice of Ex Parte, PS Docket No. 07-114 at 3 (filed April 23, 2020).

<sup>15</sup> Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114, at 2 (filed April 9, 2020).

<sup>16</sup> *Report on Stage Z*, 911 Location Test Bed, LLC, PS Docket No. 07-114 (Aug. 3, 2018). Polaris Wireless has developed a 3D Wi-Fi based location technique that does not require use of a barometer. The carriers asserted that the Polaris Wireless method of crowd sourcing 3D Wi-Fi data was not feasible. While defensible, Polaris Wireless ultimately withdrew the 3D Wi-Fi technology to ensure the application for at least the company's barometric solution was accepted into test.

<sup>17</sup> Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114 at 3 and Slide 7 (filed Sept. 6, 2018). *See also* Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114 at 2 (filed April 9, 2020); Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114 at 2 (filed Nov. 15, 2019); Polaris Wireless, Notice of Ex Parte, PS Docket No. 07-114 at 1-2 (filed Sept. 19, 2019).

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part of an OS upgrade or even carrier upgrade, and not a Polaris Wireless application that consumers need to download on their own. Polaris Wireless cannot achieve this implementation in a vacuum and has consistently stated that industry cooperation, led by the carriers, is necessary and that the company welcomes collaboration with other stakeholders. Nevertheless, Polaris Wireless is unaware of any meaningful steps the carriers have taken in pursuit of scalable implementation. This, too, is a self-fulfilling argument being made by the carriers.

Additionally, T-Mobile alleges that battery life will be negatively impacted based on “regular transmission of location information and barometric pressure to calibrate the barometer in each individual handset on a centralized server” causing “consumer to avoid downloading the third-party app or remove it altogether.”<sup>18</sup> This is another uninformed argument. The Polaris Wireless solution requires the occasional download of weather assistance data, not unlike current device-based GPS and Wi-Fi-based solutions that require occasional download of GPS assistance data or local Wi-Fi databases.

Finally, T-Mobile speculates that consumers will need to grant consent of sharing location to a third-party location server that could present a “significant privacy issue.”<sup>19</sup> Polaris Wireless offers the option for its location server to be located in the carrier’s network or in a carrier-managed cloud environment. Security of this consumer data would therefore be managed by the wireless carrier through their established security and privacy measures.

Instead of accepting the mandate of the Fifth Report and Order, the wireless carriers are seeking a weaker z-axis mandate to accommodate a solution that is not able to meet the z-axis metric in the adopted Order. This push to weaken the accuracy metric through ex parte filings and reluctance to cooperate with other stakeholders is not only improper now that the April 2021 deadline has been mandated through a Commission Order, it is, as we show further in this Petition, contrary to the APA. Further, the timing of the carriers’ sudden advocacy for weakening the z-axis accuracy standard to accommodate solutions incapable of meeting the current mandate is troublesome given the docket’s history. The carriers collectively failed to develop the NEAD and abandoned that solution without any alternative dispatchable location

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<sup>18</sup> T-Mobile, Notice of Ex Parte, PS Docket No. 07-114 at 3 (filed April 23, 2020).

<sup>19</sup> *Id.* at 3-4.

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recommendations. Now, the carriers are promoting a weakened path to compliance in support of OS vendor device-based hybrid solutions, of which only one of two has been tested and the one tested fell short of performance mandated in the Order. T-Mobile makes the statement against Polaris Wireless and NextNav achieving scale “which has not yet been demonstrated, with only a year remaining before the first milestone.”<sup>20</sup> This statement seems more appropriate for performance of OS vendors, only one of which has just recently presented a solution for testing. Further, the CTIA’s recent filing states “Google’s participation in Stage Za demonstrates that device-based solutions offer promise to meet the goal of providing accurate Z-axis location.”<sup>21</sup> The NEAD also showed promise. To T-Mobile’s statement, this “promise” for device-based solutions is being reported less than a year from the first milestone and is only from one of the two device-based solutions. Both Polaris Wireless and NextNav went through testing two years ago and demonstrated the ability to achieve necessary accuracy. Scale and implementation are largely reliant on carrier action which has not been taken. Should consumers and the public safety community rely on another “promise” from carriers?

Because the carriers recent activity in the docket indicates that they are pursuing a weaker z-axis mandate to accommodate a solution that is not able to meet the z-axis metric in the adopted Order, it is time for the Commission to reaffirm that the mandates established in the Order adopted in November remain on schedule without consideration of the proposed weaker alternatives. The importance of z-axis technology is evident in the Commission’s reliance upon vertical location technology in both the multi-line telephone systems proceeding and the 6 GHz proceeding to resolve other location accuracy issues.<sup>22</sup> It would be fool hearted and inconsistent with the language and purpose of RAY BAUM’S Act to delay further and presents the potential for further deleterious impact on implementation timelines in other proceedings.

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<sup>20</sup> *Id.* at 3.

<sup>21</sup> CTIA, Notice of Ex Parte, PS Docket No. 07-114 (filed May 14, 2020).

<sup>22</sup> *Implementing Kari’s Law and Section 506 of RAY BAUM’S Act*, Report and Order, PS Docket No. 18-261, FCC 17-96 (rel. Aug. 2, 2019); *Unlicensed Use of the 6 GHz Band*, Report and Order and Further Notice of Proposed Rulemaking, GN Docket No. 18-295, FCC 20-51 (rel. April. 24, 2020).

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### **The Attempts to Create Alternative Compliance Standards Must Be Dismissed**

The Commission cannot adopt the proposal advanced in the CTIA's request for confidential treatment of the Stage Za report for two reasons. First, it violates the notice and comment requirements of the APA because it is not a logical outgrowth of the Fifth Report and Order's NPRM. Second, even if the CTIA could reasonably claim that its new plan is a logical outgrowth of the NPRM, the limited information provided makes it impossible for interested parties to comment. The CTIA has attempted to shift the burden to stakeholders seeking to retain transparency and collaborative participation in the docket as a delay tactic to stall efforts to comply with the April 2021 mandated deadline. The Commission cannot tolerate such blatant circumvention of its statutory duties.

#### *The Proposal in the CTIA's Request Exceeds the Scope of the NPRM and Must be Evaluated in A Separate Rulemaking*

The CTIA's proposal for the Commission to consider a revised vertical location framework<sup>23</sup> or alternative path for z-axis compliance is not a logical outgrowth of the pending NPRM.<sup>24</sup> In fact, the proposal goes in the opposite direction by seeking the Commission to consider alternatives that fail to meet the accuracy metric established in the Fifth Report and Order and that have been mandated by the fixed April 2021 deadline. While Courts have been generous with the scope of rule deviations, the CTIA's proposal is clearly outside the scope of the NRPM and must be evaluated under a separate rulemaking.<sup>25</sup> In attempting to couch the

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<sup>23</sup> CTIA Reply Comments to the Fifth Further Notice of Proposed Rulemaking, PS Docket No. 07-114 (filed Mar. 20, 2020).

<sup>24</sup> "Where the change between the proposed and final rule is important, the question for the court is whether the final rule is a 'logical outgrowth' of the rulemaking proceeding." *United Steelworkers v. Marshall*, 647 F.2d 1189, 1221 (D.C. Cir. 1980), cert. denied sub nom. *Lead Industries Ass'n, Inc. v. Donovan*, 453 U.S. 913 (1981). "If the final rule deviates too sharply from the proposal, affected parties will be deprived of notice and an opportunity to respond to the proposal." *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 547 (D.C. Cir. 1983).

<sup>25</sup> "[To avoid] the absurdity that . . . the agency can learn from the comments on its proposals only at the peril of starting a new procedural round of commentary we have held that final rules need only be a 'logical outgrowth' of the proposed regulations. *Small Refiner*, 705 F.2d at 546-47 (quoting *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 632 n.51 (D.C. Cir. 1973). But an unexpressed intention cannot convert a final rule into a "logical

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proposal to consider a revised vertical location framework that fails to meet the established accuracy metric as in any way connected to the Fifth Report and Order's NPRM, the CTIA is attempting to use the ex parte process to avoid the APA rulemaking requirements and drag out confusion to avoid meeting the established 2021 deadline. The timing of the sudden advocacy for weakening the z-axis accuracy standard to accommodate solutions incapable of meeting the current mandate is troublesome given the docket's history and the carriers' collective abandonment of the NEAD solution without any alternative dispatchable location recommendations. The CTIA cannot be permitted to use the ex parte rules to circumvent a compliance deadline mandated by the Commission.

*The Limited Information Provided by CTIA Makes It Impossible to Interested Parties to Comment*

Even if the CTIA could show that its proposal for the Commission to consider alternative solutions that do not meet the established accuracy metric is sufficiently related to the NPRM, there is inadequate information available for interested parties to meaningfully comment. Docket precedent establishes that public scrutiny of testing results has been central to the development of z-axis standards thus far. The CTIA argues that the Stage Z report was made public to support an accuracy recommendation required by the FCC in the Fourth Report & Order but that no such requirement is placed on Stage Za. This conflates contractual terms with the fundamentals of APA rulemaking. To the extent the Commission relies upon the Stage Za test results as the CTIA and carriers are now recommending, the Commission must permit the public to review and evaluate the test results. The Polaris Wireless and NextNav z-axis solutions were put under Stage Z independent testing, subjected to public scrutiny, and were referenced as the basis for the requirements in the Order. Public scrutiny of these results is precisely why the Commission was able to rely upon them as a basis for their Fifth Report and Order. Courts

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outgrowth" that the public should have anticipated. Interested parties cannot be expected to divine the agency's unspoken thoughts. *Id.* at 548-49.

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consistently recognize the APA's requirement that studies relied upon as the basis for a Commission rule be publicly scrutinized as part of the notice and comment rulemaking process.<sup>26</sup>

Docket precedent also indicates not only the value of public scrutiny as Google, Apple, and many other location vendors had a very close look at the Stage Z solutions, test conditions, and detailed performance results, but also that proprietary concerns have been addressed previously in the drafting of the solution descriptions or through other measures. There is no reason why appropriate protective measures—to protect truly proprietary information the release of which would serve only competitive interests—cannot be taken here. But neither the CTIA nor Google make any effort to limit the scope of what they claim is protected. That cannot be credited. As BRETSA identified,<sup>27</sup> Google has already publicly released descriptions of its Emergency Location Service (ELS). Without public disclosure of Stage Za results, stakeholders in these proceedings cannot confirm that Stage Z and Stage Za testing were similar. Further, the limited extracted summary performance statement mentioned above (3m in half of the Test Bed) could easily be the result of a limited and very carefully selected slice of data. Clearly, the CTIA or Google or both do not want results subjected to public scrutiny which is exactly what the APA forbids.

## Conclusion

Polaris Wireless is a true and early innovator of high accuracy wireless 3D solutions. The company has been committed to public safety and has served the U.S. E911 market uninterrupted since the company's inception nearly twenty years ago. Polaris Wireless welcomes collaboration and believes that no single technology will address all the needs of public safety. These proceedings have become less about developing technology to save human lives and is instead focused on serving questionable political and commercial objectives. The Commission can and should refocus this proceeding to the intended public safety goals by reaffirming the existing April 2021 mandate established in the Fifth Report and Order and stating

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<sup>26</sup> See, e.g., *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 237 (D.C. Cir. 2008); *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1031 (D.C. Cir. 1978)); see *Kent County, Del. Levy Court v. EPA*, 963 F.2d 391, 396 (D.C. Cir. 1992); *Indep. U.S. Tanker Owners Comm. v. Lewis*, 690 F.2d 908, 926 (D.C. Cir. 1982); *Sierra Club v. Costle*, 657 F.2d 298, 334, 398 (D.C. Cir. 1981)).

<sup>27</sup> BRETSA, Notice of Ex Parte, PS Docket No. 07-114 (filed May 12, 2020).

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that it will not consider any proposals to revise the accuracy standards that are outside the NPRM unless and until the proper filings have been made and public comment has been received. Because of the time limitations to meet the April 2021 deadline, alternative proposals which are not consistent with the standards adopted in the Fifth Report and Order must be rejected. If they are to be considered at all, such consideration should occur in a separate rulemaking, subject to separate time limitations to be established in any such proceeding. Accordingly, Polaris Wireless's Petition for Emergency Declaratory Ruling must be granted immediately, and proponents of alternative compliance standards should be instructed to follow the proper procedures if they seriously wish for their alternatives to be considered.

Respectfully submitted,



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cc: Office of Chairman Pai  
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Office of Commissioner Carr  
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Public Safety and Homeland Security Bureau